

App. Serial No. 10/579,935  
Docket No.: NL031363US1

**In the Claims:**

Please amend claims 1, 2 and 4-10, cancel claim 3 without prejudice or disclaimer, and add new claims 12 and 13 and indicated in the following listing of claims, which replaces all previous versions.

1. (Currently Amended) An array (20) of magnetoresistive memory elements (10) comprising:

a magnetic field sensor unit (40) for measuring an external magnetic field in the vicinity of the magnetoresistive memory elements, the magnetic field sensor unit generating an output signal representative of the measured external magnetic field; (10), and

disable circuitry responsive to the output signal to ~~means~~ (42) for temporarily disable disabling any programming operation when the measured external magnetic field exceeds a threshold value; and

a memory buffer to store incoming data while programming operations are temporarily disabled.

2. (Currently Amended) An array (20) according to claim 1, wherein the magnetic field sensor unit comprises a plurality of magnetic field sensors (40).

3. (Cancelled).

4. (Currently Amended) An array (20) according to claim 1, wherein the magnetic field sensor unit (40) is an analog sensor unit.

5. (Currently Amended) An array (20) according to claim 1, wherein the magnetic field sensor unit (40) is an element of the same construction as the magnetoresistive memory elements (10).

6. (Currently Amended) An array (20) according to claim 5, wherein the magnetic field sensor unit (40) is more sensitive to magnetic fields than the magnetoresistive

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memory elements (10).

7. (Currently Amended) An array (20) according to claim 1, furthermore comprising driving circuitry (42) for driving the memory elements (10) of the array (20).

8. (Currently Amended) An array (20) according to claim 1, furthermore comprising a temperature measurement unit for measuring temperature in the vicinity of the magnetoresistive memory elements (10), wherein the disable circuitry is means (42) for temporarily disabling any programming operation are adapted to disable any programming operation when the measured temperature exceeds a pre-set temperature range.

9. (Currently Amended) An electronic device comprising:  
an array (20) according to claim 1 of magnetoresistive memory elements;  
a magnetic field sensor unit for measuring an external magnetic field in the vicinity of the magnetoresistive memory elements, the magnetic field sensor unit generating an output signal representative of the measured external magnetic field;  
enable circuitry responsive to the output signal to temporarily enable programming operation when the measured external magnetic field exceeds a threshold value; and  
a memory buffer to store incoming data while programming operations are temporarily disabled.

10. (Currently Amended) Method for preventing erroneous programming of a magnetoresistive memory element (10) during the presence of an external magnetic field, the method comprising:

measuring the external magnetic field in the vicinity of the magnetic memory element (10); and

temporarily disabling any programming operation if the measured external magnetic field exceeds a threshold value; and

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storing incoming data in a memory buffer while programming operations are temporarily disabled.

11. (Original) Method according to claim 10, furthermore comprising sensing temperature in the neighborhood of the magnetoresistive memory element and temporarily disabling any programming operation if the measured temperature exceeds a pre-set temperature range.

12. (New) An array according to claim 1, wherein the magnetoresistive memory elements have a magnetic tunneling junction structure, and wherein the magnetic field sensor unit is a rotated one of the magnetoresistive memory elements.

13. (New) A device comprising:

an array of magnetoresistive elements each having a magnetic tunneling junction structure including a pinned magnetic layer having a fixed magnetic vector direction common to all the magnetoresistive elements, a free magnetic layer magnetizable into different memory states for storage of data, and a dielectric barrier layer between the fixed magnetic layer and free magnetic layer, a plurality of the magnetoresistive elements being oriented as memory storage elements, and one or more other of the magnetoresistive elements being oriented as sensor elements, the sensor elements rotated at an angle with respect to the memory elements to generate an output signal representative of a sensed external magnetic field; and

enable circuitry responsive to the output signal to temporarily disable programming operation when the sensed external magnetic field exceeds a threshold value.